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| EXAMINER |
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YOO, JASSON H

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03/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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| Office Action Summary | Application No. 10/672,600 | Applicant(s) SAVARESE ET AL. | |
| | Examiner JASSON H. YOO | Art Unit 3714 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "radial" in the expression "radial transmission line" in claim 1 is a relative term which renders the claim indefinite. The term "radial" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification discloses that the antennas are provided on the surface of the core of the golf ball. Thus it is not clear "radial" refers to in this context. Claims 2-16 incorporate the limitation by dependency.

Claim 11 claims the golf ball specifications. However golf ball specifications may change over time. For example, the golf ball specifications standardized by the United States Golf Association may change over time, and thereby change the scope of the claim. Therefore claim 11 is indefinite for failing to particularly point out and distinctly claim what the golf ball specifications are.

Claim 12 recites the limitation of the said first and second antennas comprises a seed layer and a plated layer which is coupled to said seed layer. However applicant's specification does not the antennas comprises a seed layer and a plated layer.

Applicant specifically discloses the ball comprises these layers (paragraph 77 of Applicant's Specification).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 9-10, 11, 12, 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Mayer (DE 87 09 503). (The provided machine translation of DE 87 09 503 will be used to describe the invention).

1. Mayer discloses a golf ball comprising:

a ball material;

a first tag which is attached to said ball material, said first tag having a first antenna, which is coupled to a first electrical component, said first antenna being patterned as a first radial transmission line (Mayer discloses a first tag comprising an antenna coupled a diode. The antenna and the diode are attached to the ball. The electrical connection of the diode and the antenna forms a transmission line. See page 1, paragraphs 7-9.);

a second tag which is attached to said ball material, said second tag having a second antenna which is coupled to a second electrical component, said second antenna being patterned as a second radial transmission line (Mayer discloses a plurality of diodes and antenna reflectors. See page 2, paragraph 1.), which is arranged substantially orthogonally relative to said first radial transmission line (The antennas surround the outer core of the ball. Mayer further discloses the reflectors and diodes are distributed evenly and symmetrically. If the antennas surround the outer core of the ball, and the antennas are evenly distributed, then the transmission lines will inherently be substantially orthogonal to each other.).

2. Mayer discloses a golf ball as in claim 1 wherein said first tag and said second tag are substantially independent electrically and provide a substantially spherical reception pattern (The antennas and diode are provided to individually reflect signal. Thus they are substantially independent electrically. The antennas provide a substantially spherical reception pattern because the reflectors and diodes are distributed evenly and symmetrically.).

3 Mayer discloses a golf ball as in claim 1 further comprising: a layer material which encases said first tag and said second tag and said ball material (hard bowl 3 in page 2, paragraph 3).

5. Mayer discloses a golf ball as in claim 1 wherein said ball material is either a core material which has a substantially solid spherical shape or an inner shell which has a circular cross-sectional shape (hard bowl 3 in page 2, paragraph 3, See Figs. 1 and 2).

7. Mayer discloses a golf ball if claim 1. However Mayer fails to specifically state the ball material has a first template for forming said first antenna and a second template for forming said second antenna. Nevertheless the method of forming a product in a product claim is product-by-process claim. The patentability of a product does not depend on its method of production. Therefore Mayer discloses the above limitations. See MPEP 2113.

9. Mayer discloses a golf ball as in claim 1 wherein each of said first and said second antennas is disposed between curved surfaces in said golf ball and wherein each of said first and said second antennas is designed to receive a radiofrequency (RF) signal of a first frequency and to re-radiate a return RF signal of a second frequency (See page 1, paragraphs 9- 10.).

10. Mayer discloses a golf ball as in claim 9 wherein said second frequency is a multiple of said first frequency (double the reflected frequency, page 1, paragraphs 9-10).

11. A golf ball as in claim 1 wherein each of said first and said second antennas is disposed between curved surfaces in said golf ball and wherein said tag is detectable with a handheld transmitting/receiving device over a range of at least 20 feet separating said handheld transmitting/receiving device and said tag (60m in page 1, paragraph 11), and wherein said golf ball has high durability and substantially complies with golf ball specifications (Mayer discloses a golf ball, and thus must have golf ball specifications).

12. Mayer discloses a golf ball as in claim 1 wherein each of said first and said second antennas comprises a seed layer (glue layer, page 1, paragraph 8) and a plated layer (flexible bowl player, page 1, paragraph 8), which is coupled to, said seed layer.

15. Mayer discloses a golf ball as in claim 1 wherein said golf ball has at least two portions which include a core and a shell (see Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 8, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer (DE 87 09 503).

6. Mayer discloses the claimed golf ball as discussed above. However, Mayer fails to disclose the first diode is disposed at least partially in a first void in said ball material, and the second diode is disposed at least partially in a second void in said ball material. Nevertheless such limitations would have been obvious to one of ordinary skill in the art. Mayer discloses the diode is within the golf ball. In order to have an electrical component within a golf ball, the golf ball must have some sort of void to fit the electrical component. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mayer's golf ball and dispose the diodes in a first void and second void in the golf ball in order to provide a golf ball with electrical components within the golf ball.

8. Mayer discloses the golf ball with a first and second antenna as discussed above. However, Mayer fails to disclose the first and said second antennas have at least one perforation. Nevertheless perforation on the antennas is a manufacturing design choice. The perforation on the antennas does not functionally alter the golf ball and how it is detected. Furthermore Applicant does not disclose why having the perforation will provide a surprise or unexpected result. Applicant specifically discloses the perforations allow the material below the antenna to contact and mix with the material above the antenna during the fabrication process of making the golf ball. When manufacturing any device by applying flat piece of object (in this case the antenna) onto a spherical surface (in this case the surface golf ball), the flat piece of object will have creases. Thus there is less contact ratio on the surface of the object due to the

creases. Having perforation within the flat piece of object will minimize the creases and allow the flat piece of object to have more contact surface ratio with the spherical surface. Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Mayer's golf and provide at least one perforation on the antennas in order to provide the predictable result of allow the antenna be in contact with the surface of the ball more effectively.

13. Mayer discloses the claimed golf ball as discussed above. However Mayer fails to disclose the first diode is coupled to the first antenna through a first pair of compressible conductors and wherein said second diode is coupled to the second antenna through a second pair of compressible conductors. Nevertheless such limitations are implied or would have obvious to one of ordinary skilled in the art. Mayer discloses the diodes are electrically connected to the antennas. Mayer's antenna and diodes are used to detect golf balls. Thus the electrical connection must be compressible in order to be compressed with the golf ball, when the golf ball is struck by a golf club. Therefore it is implied that the antennas and diodes are connected though compressible conductor, or would have been obvious to have the antennas and diodes are connected though compressible conductor in order to detect the golf ball using the electrical components after the golf ball is struck by a golf club.

Claims 4, 14, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer (DE 87 09 503) as applied to claim 1 above, and further in view of Enander (US 4,331,957).

4. Mayer discloses the golf ball as discussed above. However, Mayer fails to specifically teach a width of the first and second antennas varies either substantially linearly or substantially exponentially with a length of said first and second antennas. However, in an analogous art to locatable devices, Enander discloses a method of tracking a device comprising a tag (see Figs. 3-4). Similarly to Mayer's tag, Enander discloses the tag comprises a diode (7) and antennas (5, 6). Enander further discloses the width of the antenna varies with the length of the antenna (see Fig. 3). Thus it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Mayer's antenna and used antennas in which the width varies substantially linearly or substantially exponentially with a length of the antenna in order to provide a predictable results of receiving and transmitting signals.

14. Mayer in view of Enander discloses a golf ball as in claim 1 wherein said first antenna comprises a first inductive element and said second antenna comprises a second inductive element (8 in Fig. 3).

16. Mayer in view of Enander discloses a golf ball as in claim 1 wherein said first electrical component is a first diode and said second electrical component is a second

diode and wherein an impedance of said first diode is substantially tuned to an impedance of said first antenna at both excitation frequency and re-radiated harmonic frequency (Enander col. 4:15-32).

Response to Arguments

Applicant's arguments, see filed 12/14/07, with respect to the rejection(s) of claim(s) 1-16 in view of Kuesters have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mayer.

Conclusion

Due to the numerous embodiments discloses the Applicant's disclosure, the Examiner requests that Applicant provide support for future amendments. The Examiner also requests the Applicant specify which embodiment and which corresponding figures are directed the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASSON H. YOO whose telephone number is (571)272-5563. The examiner can normally be reached on 9:00am - 5:00am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JHY

/XUAN M. THAI/

Supervisory Patent Examiner, Art Unit 3714